

TELEP, I.F.; PEL'TS, Ya.Ye.; GURZHOV, V.A.

Urgent necessity. Koks i khim. no.7:6-7 '63. (MIRA 16:8)

1. Donetskaya gosudarstvennaya kontrol'naya laboratoriya po
izmeritel'noy tekhnike.

(Coal preparation)

FEL'TS, Ya.Ye.; TELEP, I.F.; GURZHOV, V.A.

Improving the quality of refractory materials. Standartizatsia
28 no.8:50-51 Ag '64. (MIRA 17:11)

S/755/61/000/003/015/027

AUTHORS: Ryabova, G.G., Gurzin, P.L., Yevstyukhin, A.I.

TITLE: Study of the distribution of admixtures of carbon, iron, and chromium in niobium by the radioautography method.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metalloye-deniy chistykh metallov. no.3. 1961, 163-174.

TEXT: The paper describes an investigation which was prompted by the significant impairment of the corrosion resistance, plasticity, and heat resistance of Nb as a structural material for nuclear-power applications even by very minor impurities. Contact radioautography (RA) was employed to investigate the distribution (D) of C, Fe, and Cr in Nb remelted by the arc method. The alloys tested were: I - Nb + 0.01 wt. % C^{14} ; II - Nb + 0.05% Cr^{51} ; III - Nb + 0.07% Fe^{59} . Each alloy was remelted several times in a MIFI-9-3 arc furnace in an atmosphere of purified Ar at 10^{-2} torr in the presence of a Zr getter. The rod ingots obtained were variously heat-treated (diffusion-annealed). The highly penetrating radiation of Cr^{51} and Fe^{59} made it necessary to use specimen of a thickness no greater than the dimensions of the nonuniformities to be studied. The softer β -radiation of C^{14} , which is absorbed within a thickness of 1μ or so, obviated the need for comparably thin specimens.

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Study of the distribution of admixtures of carbon ... S/755/61/000/003/015/027

Perfect contact between specimen and photoemulsion must be achieved by high-grade polishing of the specimen. After polishing, the specimen was bonded to an Al or plexiglas backing and further reduced to a thickness of 10-30 μ . The NIKFI MR film used had an emulsion thickness of 10-15 μ and a grain size of 0.3-0.5 μ . It has a flat sensitivity (E_{max}) vs. electron-energy curve. RA at +4 to +5°C was performed in a desiccator held in a cooler. Metallographic analysis paralleled the RA. All tests were made on cast specimens (no facilities for deformation available). RA shows that C is distributed nonuniformly along the Nb-grain boundaries and within individual grains (as carbide inclusions). Dendritic liquation was not observed. Soaking at 800 through 1,200°C did not alter the C distribution in the Nb. A 2-hr holding at 1,500°C resulted in a volatilization of C from the Nb, with consequent equalization. 24-hr soaking at 1,600°C resulted in a further decrease in specimen activity and increased uniformity of D. The microhardness H_V , after such anneal, decreased from 330 to 290 kg/mm². It is apparent that the remaining C (which, incidentally, affects the plasticity of the Nb) is bound up with the Nb in a solid solution and in Nb carbides distributed along the intergranular boundaries and intragranular interfaces. Cr was found to be in solid solution with the Nb; upon solidification it produces dendritic liquation even with small contents. The microhardness of the cast alloy is 245 kg/mm² as against 180 kg/mm² in the nonalloyed initial Nb. Neither long-term (8 hr) holding at 1,000°C nor differing cooling rates affect the

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Study of the distribution of admixtures of carbon ... S/755/61/000/003/015/027

redistribution (RD) of the Cr. Short-term anneals up to $1,500^{\circ}\text{C}$ do not effect any RD of the Cr while, incidentally, increasing the dendritic liquation somewhat. A 24-hr anneal at $1,600^{\circ}$ produces a substantial RD of Cr and eliminates dendritic liquation almost entirely. Cr is then concentrated along the boundaries and within the interior of the grains in the form of individual inclusions. The H_V of the parent metal is then reduced to 160 kg/mm^2 , as against an H_V of 205 kg/mm^2 for the inclusions. Fe is distributed within the Nb in a manner similar to that of Cr and effects dendritic liquation, also. A 3-8-hr anneal at $1,000^{\circ}\text{C}$ does not eliminate DL. Cooling rate is inconsequential; 2-hr soaking at $1,400\text{-}1,500^{\circ}$ is ineffective, but 24-hr soaking at $1,600^{\circ}$ alters the distribution of Fe in Nb, with separate inclusions forming along the boundaries and in the interior of the grains. Dendritic liquation is totally eliminated. It appears advisable to extend this investigation by studying the effects of heat-treatment and mechanical deformation on the character of the distribution of these elements in Nb. There are 10 figures, 1 table, and 7 references (5 Russian-language Soviet and 2 Russian-language translation of U.S. textbooks by O'Driscoll-Miller and Macintosh).

ASSOCIATION: MIFI (Moscow Engineering Physics Institute).

Card 3/3

COMMON CARTRIDGE NO. 1																									
PROCEDURES AND PROPERTIES INDEX																									
1ST AND 2ND EDITIONS																									
GURZO, S. D.																									
Clinical studies of poisoning by organic mercurials (diethylmercury phosphate and diethylmercury). B. A. Drozhichina and S. D. Gurzo. Farmakol. i Toksikol. 7, No. 5, 41-2 (1944). From 8 cases of chronic poisoning by vapors of Et ₂ Hg and its phosphate it appears that the encephalopathic effects are different from those of Hg poisoning. There are distinct psychic symptoms. Hemoglobin count dropped 44-50%, with some lymphocytosis and monocytosis. The Hg content of the urine reached 0.6 mg./l. Stomatitis, quickly progressing to ulcerating gingivitis, was a symptom. Julian F. Smith																									
METALLURGICAL LITERATURE CLASSIFICATION																									
1st Edition Only 1st																									
2nd Edition Only 1st																									

GURZO, S.D.

Trophic disorders in acute butyl and amyl alcohol intoxications.
Trudy AMN SSSR 31:89-90 '54. (MLBA 7:10)
(Alcohol--Toxicology)

JURZO, S.D.; KEVORD'YAN, A.A.

Clinical aspects and therapy of chronic mercurialism. Trudy AMN SSSR
31:127-136 '54. (MLRA 7:10)
(Mercury--Toxicology)

UVAROVA, K.G., kand. med. nauk; GURZO, V.F. (Saratov)

Effect of the stimulation of tonsils on some hemodynamic indices. Kaz. med. zhur. no.5:83 S-0'63 (MIRA 16:12)

GUINZO, V.V.; STAL'MAKHOV, V.S.; TRUBETSOV, D.I.

Contribution to the theory of parametric amplification of
cyclotron waves in beam devices with crossed fields.

Radiotekh. i elektron. 10 no.12:2251-2254 D '65.

(MIRA 19:1)

1. Submitted July 13, 1964.

L 45849-66 EWT(1) JM

ACC NR: AR6015968

SOURCE CODE: UR/0275/65/000/011/A025/A025

AUTHOR: Gurzo, V. V.; Stal'makhov, V. S.

TITLE: Amplifiers of the magnetron type with premodulation of the electron flow

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 11A155

REF SOURCE: Sb. Vopr. elektron. sverkhvysok. chastot. Vyp. I. Saratov, Saratovsk. un-t, 1964, 68-80

TOPIC TAGS: magnetron, backward wave amplifier, traveling wave tube, beam modulation

ABSTRACT: The authors consider an amplifier in which the electron flow is premodulated by interaction with an auxiliary decelerating system. The input signal is split into two signals, one of which is fed to the input of the modulator decelerating system while the other goes to the input of the amplifier decelerating system. Since interaction may take place on both the forward and reverse harmonics, there are four possible cases: BWA-BWA, TWT-TWT, TWT-BWA and BWA-TWT (where BWA is the backward-wave amplifier). Analysis of the simplest case--linear operating conditions, low space charge and no losses--shows that it is feasible to use premodulation for backward-wave amplifiers (TWT-BWA and BWA-BWA). M. R. [Translation of abstract]

SUB CODE: 09

Card 1/1 10

UDC: 621.385.632

1 20653-66 EWT(1)/EWA(h) IJP(c) AT/JH
ACC NR: AP6007638 SOURCE CODE: UR/0141/66/009/001/0146/0154

AUTHOR: Gurzo, V. V.; Kulikov, M. N.; Stal'makhov, V. S. 26

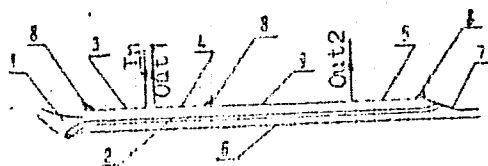
ORG: Saratov State University (Saratovskiy gosudarstvennyy universitet) B

TITLE: Investigation of the instability (of diocotron amplification) of thin electron beams moving in crossed fields

SOURCE: IVUZ. Radiofizika, v. 9, no. 1, 1966, 146-154

TOPIC TAGS: electron tube, cross field tube / ~~M-type tube~~

ABSTRACT: The results are reported of an experimental investigation of the instability of thin electron beams moving in crossed fields in a region free from external r-f fields. Unlike other works (L. A. Harris, Proc. IRE, B-105, Suppl., 645, 1958) where gain per unit current or beam length was reported, this article gives the total gain in the drift region. An M-type electron-wave amplifier (see figure) was used for experiments. The diocotron gain (over 6 db) was determined as the difference between the total gain and that of the matching



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L 20653-66

ACC NR: AP6007638

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devices. The experimental amplifier comprised: 1 - electron gun, 2 - electron beam, 3 - first coupling element, 4 - second coupling element, 5 - third coupling element, 6 - base (negative electrode), 7 - collector, 8 - absorber, 9 - drift. A gain of 15--18 db was obtained when an r-f signal was applied to the first and taken from the third coupling element. It was found that: (1) broadband operation of the diocotron amplifier is possible, even with dispersing coupling elements, if the latter are short enough; an amplification band of 8% was achieved in the experiments; (2) practical application of such an amplifier is limited by its low efficiency and high internal noise level. Orig. art. has: 9 figures and 6 formulas. [03]

SUB CODE: 09 / SUBM DATE: 08Jul65 / ORIG REF: 002 / OTH REF: 005

ATD PRESS: 4224

Card 2/2 BK

L 02239-67 EWT(1)

ACC NR: AR6013692

SOURCE CODE: UR/0058/65/000/010/H033/H033

AUTHOR: Gurzo, V. V.; Stal'makhov, V. S.

TITLE: Amplifiers of the magnetron type with preliminary modulation of the electron beam

SOURCE: Ref. zh. Fizika, Abs. 10Zh225

REF SOURCE: Sb. Vopr. elektron. sverkhvysok. chastot. Vyp. 1. Saratov, Saratovsk. un-t, 1964, 68-80

TOPIC TAGS: magnetron, traveling wave amplifier, backward wave amplifier, electron beam, beam modulation, space charge

ABSTRACT: The authors investigate linear operating modes of traveling-wave and backward-wave amplifiers (TWT and BWA) with preliminary modulation of the electron beam as a result of interaction with an additional slow-wave system. The input signal is split into two parts, one of which is fed to the input of the slow-wave system of the modulator, and the other to the input of the slow-wave system of the amplifier. They can interact either with the direct or with the backward harmonic, so that four cases of two-stage type-M amplifier circuits with preliminary modulation are possible.

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L 02239-67

ACC NR: AR6013692

BWA-BWA, TWT-TWT, TWT-BWA, and BWA-TWT. On the basis of an analysis of the simplest case (linear mode, small space charge, and absence of losses), it is concluded that it is advantageous to use preliminary modulation for backward-wave amplifiers (the case TWT-BWA and BWA-BWA). M. R. (Translation of Abstract)

SUB CODE: 09

2/2 bdh

QUS, N.

Segmental arterial vascularization of the upper half of the kidney. Bul sc Youg 7 no.1/2:11 F-Ap '62.

1. Anatomski institut Medicinskog fakulteta, Sarajevo.

*

GUSA, V.

621.316.57.064.41
✓ 3359. DRYING OF COMPRESSED AIR FOR HIGH-VOLTAGE
CIRCUIT BREAKERS. V.Gusa, I.Krezitzh, I.Ladnar and
L.Chernyi
Etek. Stantsii, 1956, No. 2, 26-31. In Russian.

Elec Eng
The reduction of the relative humidity through expansion
from 30 kg/cm² to 15 kg/cm² is not sufficient if the plant has
to work at temperatures of -10°C. Additional drying is ob-
tained through silica-gel filters and an arrangement is des-
cribed by which two filters work alternately and are automat-
ically taken out of service and dried when their moisture con-
tent has reached a certain value as indicated by the fall in
electrical resistivity of a silica-gel indicator. Drying of the

filter then takes place through passing of hot air. When the
filter is dry enough, the heater and the air circulation are
automatically switched off.

F.Busemann

87
1522

GUSA, V.

✓ Mechanism of arc discharge under high pressure in the nozzle of an air switch. I. Teigelka, L. Chernyi, V. Gusa, I. Krzhizh, and I. Ladnar. *Zhur. Tekh. Fiz.* 26, 400-404 (1956).—The electrocond. in the nozzle of an a.-c. arc ($I = 800$ amp., $E = 500$ v.) under 4 atm. air pressure is electronic. Under these conditions intensive steplike ioniza-

tion begins a few mm. from the cathode. From this space anions bombard the cathode, thus sustaining the emission of electrons. The arc also burns with parallel cathode-anode bases. A stream of air only partially affects the velocity of electrons in the preanode region. The oscillograms show that the changing potentials during the burning of arc (0.01 sec.) cause avalanche-like electron transitions resulting in sudden variations of small amplitude in the current.

A. P. Kotloby

Platz

5

ADW 294

GUSA, V., doktor tekhnicheskikh nauk; KRZHIZH, I.; LADMAR, I.; CHERNYY, L.,
inzhener.

Drying compressed air for high-voltage circuit breakers. Elek.sta.
27 no.2:26-31 F '56. (MLRA 9:6)

1.Nauchno-issledovatel'skiy institut sil'notochnoy elektrotehniki,
Chekhoslovakiya.
(Electric circuit breakers) (Drying apparatus)

GUSA, Vatalov, inzhener, doktor tekhnicheskikh nauk; TSIGELKA, Yaroslav;
inzhener.

Arc extinguishing processes in air circuit-breakers. Elektriches-
stvo no.5:37-39 My '57. (MLRA 10:6)

1. Nauchno-issledovatel'skiy institut sil'notochnoy elektrotekhniki,
Chekhoslovakiya.
(Electric circuit breakers)

GUSA, VASILY

AUTHOR: GUSA, VASILY and TSIGELKA, YAROSLAV PA - 3548
 TITLE: Temperature Measurement of High Pressure Electric Arc in Air Switch.
 (Izmereniye temperatury elektricheskoy dugi pri vysokom davlenii v
 vozdushnom vyklyuchatele po metodu, osnovannomu na zakuporke
 sopla, Russian)
 PERIODICAL: Zhurnal Tekhn. Fiz. 1957, Vol 27, Nr 5, pp 962-969 (U.S.S.R.)

ABSTRACT: A method is described which is based upon measuring the arc voltage and the short circuit current. Theoretically the dependence of amperage, temperature, arc cross section, and air pressure is derived. In the case of the method employed here the phenomenon of a complete filling of a nozzle with the arc column and the herewith connected shortening of the same and the reduction of pressure on it is utilized. This method was used for measuring arc temperature. On the basis of the theoretical analysis the latter was determined. If the diameter of the arc does not exceed the diameter of the nozzle, arc temperature is constant: $\approx 13000^{\circ}$ K. If the nozzle is filled by the arc column, the increase of current is accompanied by an increase of arc temperature. The energy radiated from the surface of the arc is for the greater part absorbed by the bronze nozzle. (With 9 Illustrations and 1 Slavic Reference).

Card 1/2

PA - 3548

Temperature Measurement of High Pressure Electric Arc in Air Switch.

ASSOCIATION: NIISE, Bekhovitse near Prague
PRESENTED BY:
SUBMITTED: 30.6.1956
AVAILABLE: Library of Congress

Card 2/2

8(0)

SOV/105-56-11-21/28

AUTHORS:

- 1) Zaleskiy, A. M., Professor (Leningrad)
- 2) Sergeyev, P. V., (Town of Ust'-Kamenogorsk)
- 3) Gusa, V., Tsigelka, Ya. (Czechoslovakia)
- 4) Aronzon, N. Z., Candidate of Technical Sciences

TITLE:

On a Theoretical Motivation of the Principle of Minimum Arc Voltage (O teoreticheskom obosnovanii printsipa minimuma napryazheniya dugi)

PERIODICAL: Elektrichestvo, 1958, Nr 11, pp 85-88 (USSR)

ABSTRACT:

This is a comment on the article by N. Z. Aronzon, published in Elektrichestvo, 1958, Nr 3, pp 56-60. Aronzon attempts to prove that the assertion which is to the point that the "minimum principle" of arc voltage as advanced by Shteyerbek does not represent an exact law, but only an approximative rule is erroneous. The solution presented by Aronzon is a substantiation of just the opposite truth. He showed that the exact solution by no means validates this principle. This has moreover been shown by less stringent theoretical derivations and by many experiments. Aronzon wants to prove the correctness of this principle under any circumstances. Hence in some

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SOV/105-51-11-21/28

On a Theoretical Motivation of the Principle of Minimum Arc Voltage

special cases he introduces evidently unreal assumptions in order to arrive at a substantiation of the "minimum principle". These assumptions are subjected to a detailed critical review. The summary is to the point that the "minimum principle" is no regularity corresponding to the basic nature of facts, but only a rough approximation theory, which is to be discarded. There is no reason to doubt the applicability of the principle of minimum resistance to the electric arc. In a general form the principle of least resistance and of maximum power dissipation can be formulated as follows: All processes in nature proceed in the direction of least resistance to the transformation of energy, or if termed in other words, in the direction of maximum energy consumption. The viewpoint adopted by Aronzon is correct, but he limits his investigation to the special case of the energy balance in the arc. His conclusions do not apply to a power arc. Zalesskiy gives a very indeterminate assertion, that the incorrectness of the minimum principle has been proved long ago. He should have given an exact reference to the paper including this statement. Rompe and Vaytsel' suppose that the minimum principle in application to a stabilized arc proves to hold only due to purely acciden-

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SOV/105-58-11-21,28

On a Theoretical Motivation of the Principle of Minimum Arc Voltage

tal circumstances. In fact it could successfully be proved that this circumstance is not accidental. It follows from the properties of the differential equation describing the arc behaviour. The retorts given by Zalesskiy are studied and then shown to be incorrect. Emphasis is repeatedly placed upon the fact that no method of an accurate calculation has hitherto been developed for the calculation of an arc with preponderating volume cooling and that thus the minimum principle up till now constitutes the only means of calculating such arcs. The fact that this principle applies to this case is substantiated not only in the papers by Kirshteyn and Koppel'man, but also by the well known circumstance that the voltage gradient across the arc is independent of the current. (This latter statement is commented in the book by Zalesskiy as follows: "This result is very interesting and is confirmed by experimental information.") Sergeyev in his comment does not touch the minimum principle itself. He raises the question in what direction the unstable and unsteady arc proceeds to a stable and steady state operation, and he maintains that this always implies a transition to a state with a maximum.

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SOV/105-58-11-21/28

On a Theoretical Motivation of the Principle of Minimum Arc Voltage

energy dissipation. This assumption is not true, as, for example, an arc will always try to contract to minimum length, which corresponds to a minimum of energy dissipation. The remarks of Gusa and Tsigelka concerning power arcs are absolutely correct. There are 2 figures and 2 references,

ASSOCIATION: 4) Energeticheskiy institut imeni Krzhizhanovskogo AN SSSR
(Institute of Power Engineering imeni Krzhizhanovskiy, AS USSR)

Card 4/4

GUSA, V.; KRZHIZH, I.; LADNAR, I.

Zonal melting of silicon by an electron beam. Fiz. tver. tela 1
no.2:290-293 F '59. (MIRA 12:5)
(Silicon) (Electron beams)

69921

E/100/60/005/07/009/021
E140/E475

24.7700

AUTHORS: Gusa, V. and Kvasil, B.

TITLE: Measurement of the Conductivity of Semiconductors in the Centimeter-waveband

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, Nr 5
pp 796-805 (USSR)

ABSTRACT: This report was read in October 1957 at a Meeting of the Section on Semiconductors of the First Congress of Czechoslovak Physicists.

A contactless method for measuring electrical conductivity of semiconductors, in particular Ge and Si, is described. The basic material may be of irregular shape and placed in a prismatic container. The measurement is carried out by determining the Q of a cavity resonator without sample and with sample. Because of surface phenomena the material must be granular rather than in powder form. There are 3 figures, 1 table and 4 references, 3 of which are English and 1 Czech.

SUBMITTED: April 13, 1959

Card 1/1

GUSA, V., doktor tekhn.nauk; TSIGELKA, Ya., inzh.; CHERMYI, L., inzh.

Overload and countermeasures in switching of germanium diodes. Elektrichestvo no.6:82-85 Je '60.
(MIRA 13:7)

1. Nauchno-issledovatel'skiy institut sil'notochnoy elektrotekhniki, Bekhovitsy, Chekhoslovakiya.
(Germanium diodes)

GUSACH, P. P., Cand Med Sci -- (diss) "Effect of operative interventions
in ^{the} ~~goiter~~-transformed thyroid gland upon ^{the} absorption of radioactive iodine
by it." Khar'kov, 1957. 23 pp ~~(Khar'kov Med Inst)~~, 200 copies
(KL, 17-58, 111)

-81-

GUSACH, P.P.

On the reactivity of the cardiovascular system in experimental non-infectious peritonitis. Report No.1: Reaction to intravenous administration of adrenaline and caffeine. Biul.eksp.biol.i med. 48 no.9:88-93 S '59. (MIRA 13:1)

1. Iz kafedry patofiziologii (zaveduyushchiy - prof. M.M. Snyk) Luganskogo meditsinskogo instituta (direktor - prof. Ye.I. Pal'chevskiy). Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Parinym.

(PERITONITIS exper.)

(CARDIOVASCULAR SYSTEM pharmacol.)

(EPINEPHRINE pharmacol.)

(CAFFEINE pharmacol.)

GUSACH, P.P.

Reactivity of the cardiovascular system in experimental non-infectious peritonitis. Report No. 2: Reaction to the intravenous administration of acetylcholine and potassium chloride. *Biul. eksp. i biol. med.* 50 no. 8:54-57 Ag '60. (MIRA 13:10)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. M.M. Smyk)
Luganskogo meditsinskogo instituta (dir. - prof. Ye.I. Pal'chevskiy).
Predstavlena deystv. chlenom AMN SSSR V.N. Chernigovskim.
(PERITONITIS) (CHOLINE---PHYSIOLOGICAL EFFECT)
(POTASSIUM CHLORIDE---PHYSIOLOGICAL EFFECT) (CARDIVASCULAR SYSTEM)

GUSACH, P.P.

Reactivity of the cardiovascular system in experimental noninfectious peritonitis. Report No.3: State of the sympathoadrenal system. Biul. eksp. biol. i med. 3[1.e.53] no.3:27-29 Mr '62. (MIRA 15:4)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. M.M.Smyk)
Luganskogo meditsinskogo instituta (dir. - dotsent F.D.Povelitsa).
Predstavlena deystvitel'nym chlenom AMN SSSR V.V.Parinym.
(ADRENAL GLANDS) (PERITONITIS)
(CARDIOVASCULAR SYSTEM)

SMYK, M.W.; GUSACH, F.P. [Gusach, I.P.]

Effect of vegetotropic substances on the hypotensive action of
intravenously introduced novocaine. Fiziol. zhur. [Ukr.] 11
no.1:75-79 Ja-P 1965. (MIRA 1967)

1. Kafedra patologicheskoy fiziologii Lugarskogo meditsinskogo instituta.

PINCHUK, I.S.; BELOSHABSKIY, V.I.; RANNEV, G.G.; SHTEYNER, A.L.;
GUSACH, V.Ya,

Automatic pouring of cast iron by blast furnace pouring
machines. [Sbor. trud.] Nauch.-issl.inst.met. no.4:164-167
'61. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut metallurgii (for
Pinchuk, Beloshabskiy, Rannev, Shteyner). 2. Chelyabinskiy
metallurgicheskiy zavod (for Gusach).
(Blast furnaces—Equipment and supplies)

LAKOMSKIY, V.I.; GUSACHENKO, G.F.

Interaction between hydrogen and metal in the arc gap during
welding. Avtom. svar. 16 no.12:18-24 D '63.

(MIRA 17:1)

1. Institut elektrosvariki imeni Patona AN UkrSSR.

20-1-6/54

AUTHOR: Cusachenko, G.M.

TITLE: On the Existence of Solutions of Cauchy's Problems for a Certain Class of Partial Differential Equations. (O sushchestvovanii resheniy zadachi Koshi dlya nekotorogo klassa uravneniy s chastnymi proizvodnymi)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 1, pp.27-30 (USSR)

ABSTRACT: This paper investigates an equation of the form $\frac{\partial u(x,t)}{\partial t} = P((1/i)\frac{\partial}{\partial x})u(x,t)$ in the unidimensional space $-\infty < x < \infty$ with the initial condition $u(x,0) = u_0(x)$ and finds a class of existence of the solutions of the system $\frac{\partial}{\partial t} P_1(\frac{1}{i}\frac{\partial}{\partial x})u(x,t) = P_2(\frac{1}{i}\frac{\partial}{\partial x})u(x,t), u(x,0) = u_0(x)$ (1, resp. 1a)

For this purpose the author uses the method of generalized functions by I.M.Gel'fand and G.E.Shilov, Usp.matem.nauk, Vol. 8, Nr 6(58), pp. 32, 41 (1953). The following theorem is given: When the order of the differential polynomial $P_1(\frac{1}{i}\frac{\partial}{\partial x})$ is greater than the order of $P_2(\frac{1}{i}\frac{\partial}{\partial x})$ and when $u_0(x)$ satisfies the inequation $|u_0(x)| < A_1 \exp[-A_2|x|^{q/(q+1)}]$, there exists for equation (1) a solution of the Cauchy problem (1) (1a) in the class of the

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On the Existence of Solutions of Cauchy's Problems for a Certain 20-1-6/4
Class of Partial Differential Equations.

functions $|u(x,t)| < B_1 \exp[B_2 |x|^{q/(q+1)}]$, where q signifies the
greatest variety of the real root of the polynomial $P_1(s)$. The
author makes no assumptions on the differentiability of the
initial functions. In this sense the here-examined equations
recall the parabolic equations. The proof of this theorem is
followed step by step. Finally the example

$$i \frac{\partial u(x,t)}{\partial t} = u(x,t), \quad u(x,0) = u_0(x) \text{ is shortly examined.}$$

There is no figure.

ASSOCIATION: Moscow State University imeni M.V.Lomonosov (Moskovskiy
gosudarstvennyy universitet imeni M.V.Lomonosova)

PRESENTED: January 21, 1957 by A.N.Kolmogorov, Academician

SUBMITTED: January 21, 1957.

AVAILABLE: Library of Congress

Card 2/2

GUSACHENKO, I.V., ZAGRYADSKIY, V.P. and CHULOVSKIY, L. K.

"Comparative Characterization of the Effect of Phenamene and Phenatene,"
Voyenno-medits. zhur., No.1, pp 41-45, 1955

verbatim translation D 312227, 18 Aug 55

ETTEL', Abram Vladimirovich; GUSACHENKO, K.I., inzh., retsenzent; SLUZHEVSKIY, TS.Ya., inzh., retsenzent; SHAMRO, G.A., inzh., retsenzent; RUVINSKIY, G.M., inzh., retsenzent; PADRUL', Z.Ya., inzh., red.; FAL'KO, O.S., red. izd-va; EL'KIND, V.D., tekhn. red.

[Technology of agricultural machinery manufacturing] Tekhnologiya sel'skokhoziaistvennogo mashinostroeniia. Moskva, Gos.naukhno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 287 p. (MIRA 14:6)

1. Rostovskiy-na-Donu tekhnikum sel'skokhozyaystvennogo mashinostroyeniya (for Gusachenko, Sluzhevskiy, Shamro). 2. Kirovogradskiy tekhnikum sel'skokhozyaystvennogo mashinostroyeniya (for Padrul')

(Agricultural machinery industry)

40372
S/170/62/005/009/010/010
B104/B102

26.2187

AUTHOR: Gusachenko, L. K.

TITLE: Problem of the transient burning (melting) rates of a semibounded solid

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 9, 1962, 99 - 101

TEXT: A solid heated from the surface is studied. The equation of heat conduction

$$\frac{\partial \tau}{\partial \eta} + v \frac{\partial \tau}{\partial \xi} - \frac{\partial^2 \tau}{\partial \xi^2} - f(v, q, \xi) = 0,$$

$$\tau(0, \eta) = \tau(v, q), \quad \frac{\partial \tau}{\partial \xi}(0, \eta) = -q(v, \eta), \quad \tau(\xi, 0) = \tau_0(\xi), \quad \tau(\infty, \eta) = 0. \quad (1)$$

is written in relative variables. v is the burning (melting) rate, q the heat flux. A Laplace transformation of

$L_{\eta} \exp(-\int_s S) L_{\xi}$ with $L_{\eta} = \int_0^{\infty} \exp(-s\eta) d\eta$; $L_{\xi} = \int_0^{\infty} \exp(-S\xi) d\xi$ leads to

Card 1/2

Problem of the transient ...

S/170/62/005/009/010/010
B104/B102

$$L_{\eta} \left\{ \exp(-\xi, \sqrt{\rho}) \left[q - \frac{1}{\sqrt{\rho}} \frac{d\tau_s}{d\eta} + F(\sqrt{\rho}, \eta) \right] \right\}_{\rho \rightarrow s} = \frac{\tau_0(0)}{\sqrt{s}} - T_0(\sqrt{s}). \quad (3) \text{ or}$$

$$\int_0^{\eta} q(\theta) \operatorname{erfc} \frac{\xi_s(0)}{2\sqrt{\eta-\theta}} d\theta = L_{\eta}^{-1} \left[s^{-\frac{3}{2}} \frac{1}{s} T_0(\sqrt{s}) \right]. \quad (4).$$

An approximate solution of (3) for $s \rightarrow \infty$ and series expansions of the solutions of (3) for $s \rightarrow \infty$ and $s \rightarrow 0$ are described. With $s \rightarrow \infty$ the velocity v , represented as a series, should contain terms $\sim \sqrt{s}$, but not with $s \rightarrow 0$. There is 1 figure.

ASSOCIATION: Sibirskiy fiziko-tekhicheskiy nauchno-issledovatel'skiy institut, g. Tomsk (Siberian Physicotechnical Scientific Research Institute, Tomsk)

SUBMITTED: February 5, 1962

Card 2/2

L 08563-67 EWT(1)/EWT(m)/PSS-2 WH/JW/JWD/NE

ACC NR: AP6033542

SOURCE CODE: UR/0170/66/011/004/0552/0554

AUTHOR: Gusachenko, L. K.

ORG: State University, Tomsk (Gosudarstvennyy universitet)

TITLE: Nonsteady-state burning velocity of ballistic powders

SOURCE: Inzhenerno-fizicheskii zhurnal, v. 11, no. 4, 1966, 552-554

TOPIC TAGS: solid propellant, combustion, combustion instability, burning velocity, combustion pressure effect

ABSTRACT: An analysis was made of the nonsteady-state burning velocity during a sudden pressure change. The model assumed that at time $t < 0$ combustion is steady and at $t = 0$ the pressure starts to increase. The reaction in the condensed phase generates gases which are dissolved in this phase (see Fig. 2). The concentration of these gases is expressed by $1-\alpha$. After reaching the solubility limit, the gases begin to be liberated in the form of bubbles which leads to dispersion of the condensed phase. This condition is expressed by

$$1-\alpha_s \leq k \exp(L/RT_s) \quad (1)$$

where L is the heat of the solution and T_s is the surface temperature. The equality expresses the condition for dispersion, while the inequality

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UDC: 536.46

L 08563-67

ACC NR: AP6033542

ity holds when no dispersion takes place. The latter condition can occur when the pressure increases suddenly. With a sudden pressure decrease, dispersion takes place. A considerable increase in the dispersed substance during a pressure decrease has actually been observed experimentally. The solution of the relationship between the concentration and the reaction rate

$$\frac{\partial \alpha}{\partial t} = -W(T, \alpha).$$

(where W is the reaction rate) yielded certain conclusions concerning the behavior of $u(t)$ when $t \rightarrow 0$. For instance, when the pressure decreases by Δp , the burning surface must be displaced by a jump to the location where α and T satisfy condition (1) (see Fig. 1). By series expansion of equation (1), an expression was obtained for the burning velocity at $t \rightarrow 0$. It was thus proved that the calculation of the non-steady-state burning velocity by the Zeldovich method can be used also with allowance for dispersion of the condensed phase when the boundary condition $T_s = \text{const}$ is replaced by condition (1). Orig. art. has: 10 formulas and 2 figures. [WA No. 68]

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ACC NR: AP6033542

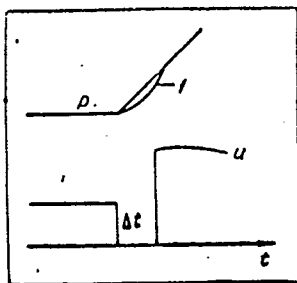


Fig. 1. Increase in the burning velocity and gas concentration at the surface during a rapid pressure increase

$$I = \frac{1-a_0}{b} \exp\left(-\frac{L}{RT_0}\right).$$

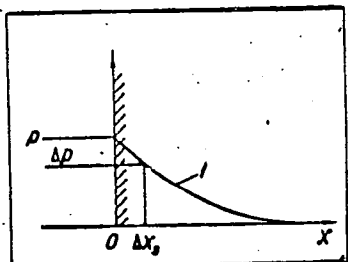


Fig. 2. Distribution of the dissolved gas concentration in the fuel

$$I = \frac{1-a_0(x)}{k} \exp\left(-\frac{L}{RT_0(x)}\right).$$

SUB CODE: 21/ SUBM DATE: 24Feb66/ ORIG REF: 003

Card 3/3

BRONETSKIY, A.I.; GUSACHENKO, H.P. (deceased); REVIS, I.A.

Studying some problems of the endurance of high-speed cast steel
as dependent on the technological factors. Trudy LTIITSEF no.14:
22-31 '64. (MIRA 18:5)

PAKHOMOV, I.; GUSACHENKO, V.

First administrative conference of active workers in Moscow medical
supplies plants. Med.prom. 11 no.9:63-65 S '57. (MIRA 10:12)
(MOSCOW--MEDICAL SUPPLIES)

GUSACHENKO, Ye.P.; BRYSOV, P.I.; LIBENZON, A.S.; MILEYKO, B.L.

"Technical production standards in the rubber industry" by I.I.
Zaitsev, A.V. Myshkis. Reviewed by E.P. Gusachenko and others.
Kauch. i rez. 21 no. 8: 62-64 Ag '62. (MIRA 16:5)
(Rubber industry--Production standards)
(Zaitsev, I.I.) (Myshkis, A.V.)

GUSAK, A.A.

Problem of a modification of Watt's parallelogram. Inzh.-fiz.
zhur. no.11:31-37 N '58. (MIRA 12:1)

1. Belorusskiy gosudarstvennyy universitet imeni V.I.Lenina,
g.Minsk.
(Mechanical movements)

GUSAK, A.A.

Origin of the constructive theory of functions. Uch. zap. BGU
no.1:3-14 '59. (MIRA 12:11)
(Functions)

16(1)

05305

SOV/170-59-8-16/18

AUTHOR: Gusak, A.A.

TITLE: On the Theory of Mechanisms Known Under the Name of Parallelograms

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Nr 8, pp 116 - 121 (USSR)

ABSTRACT: P.L. Chebyshev [Ref 1] devised the theory of mechanisms known under the name of parallelograms and derived formulae applicable to solution of some problems in the theory of hinged mechanisms. These formulae, however, were obtained under certain assumptions restricting their applicability. The author extends in this paper the theory for certain cases. In particular, the following problem is considered: to determine the corrections which should be introduced into the coefficients of the approximate expression $f(x)$ in order that the polynomial (Equation 1) should deviate from $f(x)$ in the interval $[a-h, a+h]$ by a minimum amount. The corrections are given by expression 2, and the polynomial sought for is given by Formula 3 with coefficients determined by Formulae 3.0 to 3.5. The best approximation of the function $f(x)$ is determined by Formula 4. The formulae obtained can be

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SOV/170-59-8-16/18

On the Theory of Mechanisms Known Under the Name of Parallelograms

applied to an approximate synthesis of mechanisms. This is shown by an example of the problem of the best design of a crossed mechanism shown in Figure 1.

There are: 1 schematic diagram and 5 Soviet references.

ASSOCIATION: Belorusskiy gosudarstvennyy universitet im. V.I. Lenina (Belorussian State University imeni V.I. Lenin), Minsk.

Card 2/2

SHAKHNO, Konstantin Ustinovich; GUSAK, A.A., red.; BELEN'KAYA, I.Ye.,
tekhred.

[Textbook on mathematics for persons entering institutions
of higher learning; problems presented on competitive examinations
and their solutions] Posobie po matematike dlia postupaiushchikh
v vysshie uchebnye zavedeniia; sbornik konkursnykh zadach po mate-
matike s resheniiami. Izd.4. Minsk, Izd-vo Belgosuniv. im. V.I.
Lenina, 1960. 233 p. (MIRA 13:7)
(Mathematics--Problems, exercises, etc.)

GUSAK, A.A.

Early history and development of the theory of approximation
of functions. Ist. mat. issl. no.14:289-348 '61. (MIRA 16:10)

(Functional analysis)

SHAKHNO, Konstantin Ustinovich; GUSAK, A.A., red.; MORGUNOVA, G.M.,
tekhn. red.

[Handbook on mathematics for students entering institutions of higher learning; mathematical problems and solutions given on competitive examinations] Posobie po matematike dlia postupaiushchikh v vysshie uchebnye zavedeniia; sbornik konkursnykh zadach po matematike s resheniiami. Izd.6. Minsk, Izd-vo M-va vysshego, srednego spetsial'nogo i professional'nogo obrazovaniia BSSR, 1962. 245 p.

(MIRA 15:6)

(Universities and colleges---Entrance requirements)
(Mathematics---Problems, exercises, etc.)

GUSAK, Aleksey Adamovich; NAKHIMOVSKAYA, Anna Natanovna; RYABUSHKO,
Anton Petrovich; TUTAYEV, Leonid Kondrat'yevich, dots.;
FEDENKO, Anatoliy Semenovich; VEREVKINA, N.M., red.;
KISLYAKOVA, M.N., tekhn. red.

[Problems in differential geometry] Sbornik zadach po dif-
ferentsial'noi geometrii. Minsk, Izd-vo M-va vysshego, sred-
nego spetsial'nogo i professional'nogo obrazovaniia BSSR,
1963. 106 p. (MIRA 16:10)
(Geometry, Differential--Problems, exercises, etc.)

GUSAK, Aleksey Adamovich; VEREVKINA, N., red.

[Problems and exercises in higher mathematics] Sbornik
zadach i uprazhnenii po vysshei matematike. Minsk,
Vysshiaia shkola, 1965. 175 p. (MIRA 18:4)

GUSAK, G.M.

Effect of the address system on the performance rate of
a computer. Vestsi AN BSSR. Ser.fiz-mat.nav. no.2:41-42 '65.
(MIRA 19:1)

K. 6200

37526
S/041/62/014/002/002/008
B112/B108

AUTHORS: Korolyuk, V. S., Gusak, D. V.

TITLE: On the asymptotic behavior of distributions of maximum deviation in a Poisson process

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, v. 14, no. 2, 1962, 138-144

TEXT: The authors investigate the asymptotic behavior for $\lambda \rightarrow \infty$ of the maximum deviation distributions

$$\Pi_{\lambda}(k, t; z_-, z_+) = \mathcal{P}\left\{\xi_t = k; \max_{0 \leq \tau \leq t} (\xi_{\tau} - \lambda\tau)/\sqrt{\tau} < z_+; \min_{0 \leq \tau \leq t} (\xi_{\tau} - \lambda\tau)/\sqrt{\tau} > z_-\right\}$$

of a separable Poisson process

$$\mathcal{P}\{\xi_t = k\} = e^{-\lambda t} (\lambda t)^k / k! \quad (k = 0, 1, 2, \dots).$$

Asymptotic representations of the form

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On the asymptotic behavior ...

S/041/62/014/002/002/008
B112/B108

$$\begin{aligned} \sqrt{\lambda} \Pi_{\lambda}(k, t; z_-, z_+) &= \sum_{r=0}^N \lambda^{-r/2} [p_r(x, t) - u_r(x, t)] \\ &- \sum_{r=1}^{N-1} \lambda^{-(r+1)/2} v_r(k - \lambda t - z_-, \sqrt{\lambda}, t) + o(\lambda^{-N/2}) \end{aligned}$$

with $x = (k - \lambda t) / \sqrt{\lambda}$ are derived.

SUBMITTED: December 26, 1961, Kiev

Card 2/2

GUSAK, D.V., mashinist kрана, Geroy Sotsialisticheskogo Truda

Our work practice with the FVK-70 crane. Transp. stroi. 13
no.6:46-47 Je '63. (MIRA 16:9)
(Cranes, derricks, etc.)

L 15732-65 EWT(1) AFWL
ACCESSION NR: AP4043512

S/0041/64/016/004/0463/0474

AUTHOR: Gusak, D. V. (Kiev)

TITLE: The asymptotes of the distribution of the first-passage time for a homogeneous process with independent increments

SOURCE: Ukrainskiy matematicheskiy zhurnal, v. 16, no. 4, 1964, 463-474

TOPIC TAGS: probability, random process, homogeneous process, first passage time, first passage problem, S process

ABSTRACT: The author uses a method developed by V. S. Korolyuk (but not explicitly stated here) for asymptotic analysis of random-walk boundary problems to conduct an asymptotic investigation of the joint distribution $\tau(\lambda; z_-, z_+)$ and the process $\zeta_\lambda(t)$, where

$$\tau(\lambda; z_-, z_+) = \sup \{t : z_-(\tau) < \zeta_\lambda(\tau) < z_+(\tau), 0 \leq \tau \leq t\}, \quad (7)$$

$$\zeta_\lambda(t) = \frac{1}{\sqrt{\lambda}} [\xi(\lambda t) - M\xi(\lambda t)], \quad (8)$$

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L 15782-65

ACCESSION NR: AP4043512

and $\xi(t)$ is a homogeneous process with independent increments (S-process). The problem reduces to the study of the functions where

$$a_\lambda(t, x; z_-(\cdot), z_+(\cdot)) = \frac{\partial}{\partial x} P(\xi_\lambda(t) < x, \tau(\lambda; z_-, z_+) < t); \quad (13)$$

$$\text{where} \quad M \exp \{i s \xi(t)\} = \exp \{i \psi(s)\};$$

$$-M_1 = - \int_{-\infty}^{\infty} x dM(x) < \infty, \quad N_1 = \int_0^{\infty} x dN(x) < \infty, \quad (11)$$

$$\psi(s) = ias - \frac{\sigma^2}{2} s^2 + \int_{-\infty}^{\infty} (e^{iux} - 1) d\Pi(x); \quad (12)$$

$$a = a - M_1 - N_1, \quad \sigma^2 > 0,$$

$$d\Pi(x) = dM(x) \quad (x < 0), \quad dN(x) \quad (x > 0)$$

where the variation of the spectral function $\Pi(x)$ is assumed to be bounded. The asymptotic expansion ($\lambda \rightarrow \infty$) obtained is

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L 15782-65

ACCESSION NR: AP4043512

$$a_{\lambda}(t, x) = \sum_{r=0}^n \lambda^{-\frac{r}{2}} a_r(t, x) + \sum_{r=0}^{n+1} \lambda^{-\frac{r+1}{2}} [V_r^-(t, \sqrt{\lambda}(x - z_-(t))) + V_r^+(t, \sqrt{\lambda}(z_+(t) - x))] + o(\lambda^{-\frac{n}{2}}).$$

The error in this expansion is also estimated. "In conclusion, the author would like to express his deep gratitude to V. S. Korolyuk for stating the problem and for helpful advice. " Orig. art. has: 47 equations.

ASSOCIATION: None

SUBMITTED: 06Feb64

ENCL: 00

SUB CODE: MA

NO REF SOV: 008

OTHER: 006

Card 3/3

1. 99134-00 SMT(1)

ACC NR: AP6019055

SOURCE CODE: UR/0041/66/018/001/0024/0035

AUTHOR: Gusak, D. V. (Kiev)

ORG: none

TITLE: Random walk describable by a uniform process with independent increments and an asymptotic analysis of its characteristics

SOURCE: Ukrainskiy matematicheskij zhurnal, v. 18, no. 1, 1966, 24-35

TOPIC TAGS: random walk problem, asymptotic method

ABSTRACT: The present article investigates the distribution of the characteristics of a random walk describable by an S-process within a curved strip. The relationship between the distributions of various characteristics are determined as are auxiliary statements necessary for the asymptotic analysis of distributions. An asymptotic analysis is made of a random process $\xi(t)$ under the conditions that the density of distribution of $\xi(t)$ is bounded, and the characteristic function of the process is of the form

$$M \exp \{i s \xi(t)\} = \exp \{t \psi(s)\},$$

$$\psi(s) = ias - \frac{\sigma^2 s^2}{2} + \int_{-\infty}^0 (e^{isx} - 1) dM(x) + \int_0^{\infty} (e^{isx} - 1) dN(x). \quad (1)$$

Card 1/2

ACC NR: AP6019055

The asymptotic analysis utilizes the method of successive exhaustion of discrepancies developed by V. S. Korolyuk. The present work is a generalization of earlier restricted case results (UMZh, t. 16, No. 4, 1964, 463-474). The author sincerely thanks V. S. Korolyuk for his interest in the work and valuable advice. Orig. art. has: 63 formulas.

SUB CODE: 12/ SUBM DATE: 01Jun65/ ORIG REF: 004/ OTH REF: 002

Card 2/2 blg

NESTERENKO, Petr Maksimovich; GUSAK, Fedor Akimovich [Husak, F.A.];
SERIKOV, Nikolay Andreyevich [Sierikov, M.A.]; BERNATSKIY, S.V.
[Bernats'kyi, S.V.], red.; TUBOLEVA, M.V. [Tubolieva, M.V.], red.

[Raising waterfowl; practices of the "XX Z'izd KPRS" Collective
Farm, Primorskiy District, Stalino Province] Rozvedennia vodo-
plavnoi ptytsi; z dosvidu kolhospu im. XX z'izdu KPRS, Prymors'koho
raionu, Stalins'koi oblasti. Kyiv, 1958. 27 p. (Tovarystvo dlia
poshyrennia politychnykh i naukovykh znan' Ukrain's'koi RSR. Ser.3,
no.18) (MIRA 12:2)

(Water birds)

PRISHIVALKO, A.P.; GUSAK, G.M.; ONICHEK, I.L.

Tables of Fresnel coefficients for absorbing media. Opt.1
spektr. 11 no.4:555-556 0 :61. (MIRA 14:10)
(Reflection (Optics))

L 06595-67 EWT(d)/EWP(1) IJP(c) BB/GG/GD
ACC NR: AT6015357

SOURCE CODE: UR/0000/65/000/000/0005/0010

AUTHOR: Gusak, G. M.

ORG: none

37
Bt/

TITLE: Certain aspects of computer theory 166

SOURCE: AN BSSR. Institut tekhnicheskoy kibernetiki. Vychislitel'naya tekhnika (Computer engineering). Minsk, Nauka i tekhnika, 1965, 5-10

TOPIC TAGS: computer program, computer calculation, computer memory, computer programming, computer technique

ABSTRACT: The author analyzes the problem of choosing the appropriate computer to process a given algorithm. There are three basic types of arithmetic operations which can be defined according to the memory space they require: (1) $\alpha \ 0 \ \beta \rightarrow c$, in which both variables, as well as the result, are stored in the memory. This constitutes a three-address "independent" operation. (2) $d \ 0 \ \beta \rightarrow \Sigma$ or $\Sigma \ 0 \ \alpha \rightarrow \beta$, in which the variables are stored in the memory but the result is retained in the arithmetic register. This type of calculation is called the two-address "boundary" operation. (3) If only one variable is stored and the result remains in the arithmetic register, the operation is of the one-address type and is called a "dependent" operation. To take advantage of the additional storage capacity of a three-address machine, the independent operations

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L 06595-67

ACC NR: AT6015357

must constitute at least 50% of the algorithm. Should dependent operations also be present, the percentage should be even greater. For some problems, the three-address unit gives the fastest solution. For an algorithm containing a given number of arithmetic operations, the two-address machine requires the greatest storage capacity to accommodate the required program. The storage capacity of the one- and three-address computers is determined by the respective numbers of dependent and independent operations within the algorithm. The author illustrates his conclusions by analyzing the requirements for calculating a cosine function using a well-known expansion. Since the formula contains only one independent operation in a total of twelve, the use of single address unit is most advantageous. Orig. art. has: 5 formulas.

SUB CODE: 12/

SUBM DATE: 15Dec65

Card 2/2 15

GUSAK, G.S.

Apparatus for decomposing the force of a wedge. Fiz. v shkole 18 no.4:
61-62 JI-Ag '58. (MIRA 11:7)

1. Institut usovershenstvovaniya uchiteley, g.Vladivostok.
(Wedges)

GUSAK, G.T., mekhanik-maladchik, defektoskopov (stantsiya Cherkassy,
Odesskoy dorogi)

Improving the performance of the URD-58 rail flaw de-
tector. Put' i put.khoz. 4 no.4:34 Ap '60.
(MIRA 13:7)

(Railroads--Rails--Testing)
(Railroads--Equipment and supplies)

GRIMAL'SKIY, V.L., prof.; CHETYRKIN, V.S., prof., red.toma; RUD', G.Ya.,
 kand.sel'skokhoz.nauk, red.; SUBBOTOVICH, A.S., kand.sel'skokhoz.
 nauk, red.; KOLESNIK, L.V., doktor sel'skokhoz.nauk, red.; SEME-
 NOV, A.N., doktor tekhn.nauk, red.; KOVARSKIY, A.Ye., doktor sel'-
 skokhoz.nauk, red.; FROLOV, N.P., doktor ekonom.nauk, red.; MATSYUK,
 L.S., kand.sel'skokhoz.nauk, red.; GUSAK, I.V., kand.tekhn.nauk,
 red.; URSUL, D.T., kand.filos.nauk, red.; LEGAS', I.Ye., kand.
 istor.nauk, red.; SHEVCHUK, I.F., kand.ekonom.nauk, red.; KACHANO-
 VA, N., red.; TIMOSHENKO, A.G., kand.sel'skokhoz.nauk, zamestitel'
 red.; SHPANER, V., tekhn.red.

[Bodies of water of the Reut Basin, their hydrobiological conditions
 and the outlook for their utilization in commercial fishing.]
 Vodoemy basseina reki Reuta, ikh gidrobiologicheskii rezhim i per-
 spektivy rybokhoziaistvennogo ispol'zovaniia. Kishinev, Izd-vo
 sel'skokhoz. lit-ry, 1962. 191 p. (Kishinev, Sel'skokhoziaistvennyi
 institut im. M.V.Frunze. Trudy, vol.29). (MIRA 17:2)

L 08490-67 EWP(m)/EWT(1) FDN

ACC NR: AR6016461

(N)

SOURCE CODE: UR/0124/65/000/012/B066/B067

AUTHOR: Gusak, I. V.

TITLE: Some problems in the energy characteristics of a free turbulent jet

SOURCE: Ref. zh. Mekhanika, Abs. 12B475

REF SOURCE: Sb. Vopr. vodn. kh-va Moldavii. Vyp. 1. Kishinev, Kartya Moldovenyaske, 1964, 49-62

TOPIC TAGS: hydraulic jet, turbulent jet, kinetic energy, pressure measurement

ABSTRACT: Results are given from an experimental study of a free turbulent jet of water with a circular cross section. The resultant experimental laws for the change in velocity, rate of flow and kinetic energy along the axis in the main part of the jet are compared with well-known theoretical formulas. Results are also given on the change in pressure in the cross sections of the jet. According to measurements made by the author, the pressure reduction along the axis in the body of the jet is 0.19 times the magnitude of the velocity head. The author states in his conclusion that the empirical Jacobi constant appearing in G. N. Abramovich's formula for velocity changes (increases by 30-35%) with respect to the length of the main part of the jet. A. S. Ginevskiy. [Translation of abstract]

SUB CODE: 20

Card 1/1

SOV/124-58-8-8690

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 50 (USSR)

AUTHOR: Gusak, I.V.

TITLE: Determining the Critical Depth in Prism-shaped Channels From the Specific Kinetic Energy of the Cross Section by Introducing the Concept of the Mean Critical Flow Depth (Opredeleniye kriticheskoy glubiny po udel' noy kineticheskoy energii secheniya v prizmaticheskikh ruslakh)

PERIODICAL: Tr. Kishinevsk. s.-kh. in-ta, 1957, Vol 15, pp 9-13

ABSTRACT: By introducing the concept of the mean critical flow depth

$$h_{mn\ cr} = \frac{a Q^2}{g \omega_{cr}^2} = \frac{\omega_{cr}}{B_{cr}}$$

and making the corresponding transformations, the author obtains for the critical depth the expression

$$h_{cr} = 2 c_{kin\ cr} \frac{B_{cr}}{b_{mn\ cr}}$$

Card 1/2

SOV/124-58-8-8690

Determining the Critical Depth in Prism-shaped Channels (cont.)

Here $e_{kin cr}$ is the critical energy of flow, B_{cr} is the width of the channel at water surface, and $b_{mn cr}$ is the mean width of the section in question. For a given channel section and flow rate the author recommends plotting a graph of the relationship between e_{kin} and h_{mn} and using it to determine first $h_{mn cr}$ and $e_{kin cr}$, and then the other elements of the section for the critical state.

V.V. Fandeyev

Card 2/2

GUSAK, M.I.; BRAGA, P.P.; BABAYEV, E.A.

Capron fiber for the manufacture of men's summer hats. Leg.prom.
15[i.e. 16] no.6:36-39 Je '56. (MLRA 9:8)
(Ukraine--Hats) (Nylon)

GUSAK, M.I.; BRAGA, P.P.; LARINA, Ye.A.; YEVGRAFOVA, Ye.G.

Finishing of locknit warp fabric by discharge printing.

Leg.prom. 16 no.10:49-50 0 '56. (MIRA 10:12)

(Textile printing)

SHOSTAK, S.I.; GUSAK, M.I.; MULKIDZHANYAN, N.P., glavnyy khudozhnik.

Designing models for the entire range of clothing. Leg.prom.16
no.12:13-14 D '56. (MLRA 10:2)

1. Nachal'nik tekhnicheskogo upravleniya Ministerstva legkoy
promyshlennosti USSR (for Shostak). 2. Direktor assortimentnogo
kabineta (for Gusak).

(Clothing industry)

SAVINSKIY, K.A.; POSPEYEV, V.I.; POMPIK, V.I.; GUSAK, M.T.

Tectonics and the outlook for oil and gas in the Chuna-Biryusa
uplift. Geofiz. issl. i probl. neftegaz. iuga Sib. plat. no.2:
109-127 '62. (MIRA 15:8)

(Chuna Valley--Petroleum geology)

(Chuna Valley--Gas, Natural--Geology)

(Biryusa Valley--Petroleum geology)

(Biryusa Valley--Gas, Natural--Geology)

GUSAK, N.

Three-layer wall panels for industrial buildings. Na stroi.Ros.
3 no.4:23 Ap '62. (MIRA 15:9)

1. Glavnyy tekhnolog tresta Krasnoyarskpromstroy.
(Krasnoyarsk Territory--Concrete walls)

GUSAK, N.A. [Husak, M.A.]; GONCHARENKO, A.M. [Hancharenka, A.M.]

Effect of anisotropy on the types of waves in a dielectric
wave guide. Vestsi AN BSSR. Ser.fiz.-mat.nav. no.1:90-92
'65. (MIRA 19:1)

L 33725-65 EWT(1)/EEC-4/EMA(h) Pac-4/Peb/Pi-4/Pj-4
ACCESSION NR: AP5002539 S/0250/64/008/011/0709/0712

AUTHOR: Gusak, N. A.; Goncharenko, A. M.

TITLE: TM modes of an infinite coaxial dielectric rod

SOURCE: AN BSSR. Doklady, v. 8, no. 11, 1964, 709-712

TOPIC TAGS: dielectric resonator, dielectric waveguide, Bessel function, Hankel function, transverse magnetic wave, coaxial waveguide

ABSTRACT: The TM modes of an infinite coaxial cylinder are studied as an approach to the problem of finding characteristic oscillations (modes) of dielectric resonators and waveguides. In the case considered it is possible to separate transverse-electrical (TE) and transverse-magnetic (TM) waves. In the case where the core and the surrounding medium are the same it is shown that a transverse electromagnetic (TEM) wave exists just as in a metal coaxial waveguide. "The authors thank B. A. Sotskiy for his interest in the work." Orig. art. has: 11 formulas.

ASSOCIATION: Institut fiziki AN BSSR (Institute of Physics, AN BSSE)

Card 1/2

L 39725-65

ACCESSION NR: AP5002539

SUBMITTED: 91Apr64

ENCL: 00

SUB CODE: EM

NO REF SOV: 001

OTHR: 001

Card 2/2

VUL'FSON, N.I.; GUSAK, N.A.; SKATSKIY, V.I.

Relation of microstructure parameters to convective motions in
clouds. Izv. AN SSSR. Fiz. atm. i okeana 1 no.1:76-83 Ja '65.
(MIRA 18:5)

1. Institut prikladnoy geofiziki AN SSSR.

L 41275-66 EWT(1)

ACC NR: AP6019657

SOURCE CODE: UR/0368/66/004/006/0561/0563

AUTHOR: Goncharenko, A. M.; Gusak, N. A.

ORG: none

TITLE: Theory of the modes of anisotropic dielectric waveguides, 5

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 6, 1966, 561-563

TOPIC TAGS: dielectric waveguide, waveguide element, waveguide propagation

ABSTRACT: The modes of an anisotropic dielectric waveguide when its element is made of a uniaxial crystal such that the optical axis of the crystal is parallel to the geometric axis of the waveguide are examined. It is shown that EH and HE modes are analogous to the modes of an isotropic dielectric waveguide. The transverse propagation constants of these modes are equal to the arithmetic mean values of the propagation constants of ordinary and extraordinary cylindrical waves. It is also pointed out that the anisotropy of the waveguide does not remove degeneration of the EH_{nm} and $HE_{n+2,m}$ modes. In the general case anisotropy will remove this degeneration. Orig. art. has: 11 formulas.

SUB CODE: 09/ SUBM DATE: 07Jul65/ ORIG REF: 005/ OTH REF: 001

UDC: 621.372.8:621.315.61

Card 1/1 *LC*

CHEREMUKHIN, A.D.; KOPEYKO, I.P.; SHAKHNAZAROV, M.S.; GUSAK, N.I.

Preparation of patients for surgical cautery of pleural adhesions
in the sanatorium. Sov.med. 25 no.6:130-131 Je '61. (MIRA 15:1)

1. Iz sanatoriya No.14 Ivanovskogo territorial'nogo upravleniya
kurortami, sanatoriyami i domami otdykha Ministerstva zdravookhraneniya
RSFSR (glavnyy vrach N.I.Gusak).
(PLEURA SURGERY) (ANESTHESIA)

GUSAK, N.N. [Husak, N.N.]

New data on apatite from Sarmatian sediments in the Bug Valley.
Geol. zhur. 20 no. 3:93-95 '60. (MIRA 14:4)
(Bug Valley---Apatite)

GUSAK, O.N. (g. Nesterov)

Containers for prescriptions. Apt.delo 7 no.2:48-49 Mr-Ap '58.
(MIRA 11:4)

1. Zamestitel' upravlyayushchego aptekoy No.60 L'vovskogo aptechnogo
glavnogo upravleniya (APGU)
(DRUGSTORES--EQUIPMENT AND SUPPLIES)

GUSAK, P.P.

Reparative regeneration of the sublingual salivary gland.
Arkh. anat., gist. i embr 49 no.8:85-92 Ag '65.

(MIRA 18:9)

1. Laboratoriya eksperimental'noy gistologii (zav.- prof. V.P. Mikhaylov) Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.

AUTHOR: Gusak, V.

SOV/107-58-11-37/40

TITLE: A Band-Elimination Filter for Measuring Non-Linear Distortions
(Zagrazhdayushchiy fil'tr dlya izmereniya nelineynykh iska-
zheniy)

PERIODICAL: Radio, 1958, Nr 11, p 58 (USSR)

ABSTRACT: The author explains the purpose of band-elimination filters
for measuring non-linear distortions, and mentions a relative-
ly simple design of filter, shown in Figure 2a, and a filter
for frequencies from 20 to 20,000 cycles (Fig. 2b).
There are 2 diagrams and 1 caricature.

Card 1/1

GUSAK, V.

Pneumo-mechanical system of remote control of engines. Mor. flot
19 no.7:32-33 J1 '59. (MIRA 12:10)

1. Glavnyy inzhener Dunayskogo parokhodstva.
(Marine engines) (Remote control)

39500

5.4800

S/056/62/043/002/051/053
B108/B102

AUTHORS: Bagatskiy, M. I., Voronel', A. V., Gusak, V. G.

TITLE: Measurement of the specific heat C_v of argon near its critical point

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 2(8), 1962, 728-729

TEXT: The dependence of the specific heat of argon on the temperature near the critical point was studied with the aid of a technique developed by A. V. Voronel' and P. G. Strelkov (PTE, 6, 111, 1960). Near the critical point (transition from the two-phase system 'liquid-vapor into a homogeneous system) at a density of 0.521 g/cm^3 , C_v tends to infinity.

The limit of the difference between the specific heats of the heterogeneous and homogeneous phases can be regarded as a jump in specific heat. It amounts to 20 cal/mole-deg . The jump occurred at 150.5°K (critical temperature 150.7°K). There are 2 figures.

Card 1/2

Measurement of the specific heat C_v ...

S/056/62/043/002/051/053
B108/B102

ASSOCIATION: Nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh
i radiotekhnicheskikh izmereniy (Scientific Research
Institute of Physicotechnical and Radiotechnical
Measurements) J

SUBMITTED: June 1, 1962

Card 2/2

GUSAK, Valentina Vasil'yevna

[In the public-health campaign; work of Chernovtsy Province
Department of Public Health] V bor'be za zdorov'e naroda;
opyt raboty Chernovitskogo oblastnogo otdela zdravookhraneniia.
Moskva, Medgiz, 1959. 78 p.
(CHERNOVTSY PROVINCE--PUBLIC HEALTH) (MIRA 13:12)

GUSAK, V. V. Cand Med Sci — (diss) "Experience in Organizing Agricultural Public Health Service in the Chernovitsy Oblast," Odessa, 1960, 15 pp, 500 copies (Odessa State Medical Institute im N. I. Pirogov) (KL, 46/60, 127)

GUSAK, V.V.

Organization of rural public health service under the new conditions. Vrach.delo no.3:303-307 Nr '60. (MIRA 13:6)

1. Zaveduyushchaya Chernovitskim oblastnym sdravotdelom.
(CHERNOVTSY PROVINCE—PUBLIC HEALTH, RURAL)

GUSAK, V.V.

Organization of collective farm medical prophylactoria. Vrach.delo
no.5:511 My '60. (MIRA 13:11)

1. Zaveduyushchaya Chernovitskim oblastnym zdравotdelom.
(CHERNOVTSY PROVINCE--AGRICULTURAL LABORERS--DISEASES
AND HYGIENE)
(PUBLIC HEALTH, RURAL)

I. 29544-66 EWT(a)/EWT(m)/EWP(w)/EWP(f)/T IJP(c) NW/EM/DJ

ACC NR: AP6012271

SOURCE CODE: UR/0114/65/000/011/0028/0032

AUTHOR: Lappa, M. I. (Candidate of technical sciences, Docent); Gusak, Ya. M. (Engineer); Shoykhet, A. I. (Engineer)

ORG: none

TITLE: Vibrations of high-speed gas turbine installations

SOURCE: Energomashinostroyeniye, no. 11, 1965, 28-32

TOPIC TAGS: turbine rotor, gas turbine, vibration measurement, electronic simulation

ABSTRACT: Tests were made under simulated and natural conditions to determine the effect of an oil film and support rigidity on the critical rotor speeds of the GT-6-750 gas turbine installation made by the Ural Turbine Engine Plant. The research was done by the Ural Plant in conjunction with the Odessa Naval Engineering Institute. It is shown that an oil film has a considerable effect on the theoretical critical velocities of the system which consists of the split shaft and massive elastic supports in the GT-6-750 installation. The use of a common middle support for both rotors has practically no effect on the critical velocities, which are ~4250 rpm (for a 2-support rotor in the high-pressure turbine) and ~5200 rpm (for a 2-support rotor in the low-pressure turbine). The amplitudes of the rotor vibrations in the resonance regions are within permissible limits due to the effective dumping properties of the bearing in

UDC: 621.438 : 62-253.001.5

Card 1/2

L 29544-66

ACC NR: AP6012271

the GT-6-750 installation. The results of the research indicate that analog computers give sufficient accuracy for practical purposes in calculating the critical velocities of high-speed rotors. It is absolutely necessary in these calculations to consider the elastic and damping properties of the oil film on the slide bearing as well as the elasticity and mass of the supports. The method used by the Odessa Institute of Naval Engineers to stimulate these factors electronically for rotors in the GT-6-750 installation gave results which agree satisfactorily with experimental critical velocities. The use of gages for measuring vibration of the rotor with respect to the stator (supports) in studying the vibration stability of rotors in the GT-6-750 installation gave a more complete picture of the vibration and one closer to reality than measurement of bearing vibration, which is the generally used method. The use of these gages is recommended for all high-speed rotors under both experimental and operational conditions. Orig. art. has: 5 figures, 1 formula.

SUB CODE: 21,13/ ORIG REF: 006

Card 2/2 *V*